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ABSTRACT

The research resumes presented here comprise the responses received by the Stanford Child Language Project to a general request for reports on research in progress. These reports include all those distributed at the Child Language Research Forum in April 1973. The resumes cover a wide range of topics and present, in order, the following information: research area, language, subjects/informants, ages, theoretical issues, and abstract. (Author/PMP)

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CURRENT CHILD LANGUAGE RESEARCH RÉSUMÉS

The following research reports comprise the responses received by the Stanford Child Language Project to a general request for reports on current research in progress. They were distributed at the Child Language Research Forum, April 6-7, 1973 at Stanford University. The following reports include all those collected for distribution at the Forum meeting. The résumés present, in order, the following information: research area, language, subjects/informants, ages, theoretical issues, abstract. These labels are provided and underlined in the first abstract, although omitted from the subsequent ones for the sake of brevity.

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Research area: Language disorders. Language: English. Subjects/Informants: various. Ages: various. Theoretical issues: Normal vs. non-normal acquisition of language.

The Aphasia Institute proposes to make available a selection of language samples of children referred to the Institute for assessment and remediation of language disorders. The samples range from fifty to two hundred sentences. They include contextual information provided by the therapist who was present during the elicitation of the sample. The samples would provide data for researchers in language disorders. We think that this would provide a service to researchers in the field of language acquisition and disorders since there exists a scarcity of data to study. A small charge will be made to cover the cost of copying.

BALTAXE, Christiane, & James Q. SIMMONS, III. UCLA School of Medicine, Department of Psychiatry, M.R., Los Angeles, Calif. 90024. Language development in autistic children. 2-12yrs. Defining the linguistic parameters of autism; developing novel language training materials; testing the hypothesis of right hemisphere lateralization for language in autistic children.

Autism has been consistently linked with disturbances of speech and language and at least one school of investigation considers the language disorder as primary in the disorder. Language development is always delayed and, if language develops at all, a wide range of linguistic disturbances have been noted, ranging from echolalia, irrelevant or metaphorical speech to output distortions of pitch, rate, and volume, and to difficulties in abstraction. Research to the present has generally not been carried out by linguistic specialists and the entire spectrum of linguistic behavior has not been studied consistently and compared, on a formal basis, with that of normal children. In order to define the linguistic parameters of the disorder, we are now collecting longitudinal and cross-sectional data on the language development of autistic children ages two to twelve, both in home and clinical settings. This includes mother-child and sibling linguistic interaction, since one of the hypotheses advanced as to the cause of the disorder has been a frigid mother-child relationship. We hope to compare these data with developmental language data from normal children. Based on initial research findings, we are also developing novel language training materials, based on structural paradigms, for our impatient autistic population. Because of the high percentage of echolalia and automatic speech, the frequent absence of hand preference and frequent good ability in music and block design, we are testing the hypothesis of right hemisphere lateralization for language in this population. Testing is being carried out by the dichotic listening technique. Initial findings with an adolescent autistic population tends to confirm such a hypothesis.

BELLUGI, Ursula, and Susan FISCHER. The Salk Institute, P.O. Box 1809, San Diego, Calif. 92112. Semantic and syntactic development. American Sign Language. Deaf children. 18 months - 5 yrs. Acquisition of language in a different mode.

One way to learn about the biological processes of language, its structure, and the structure of human thought as expressed in language is to study the communication and language as it develops when people are deprived from birth of hearing and therefore do not speak. This series of studies concerns the structure of sign language and the ways in which deaf children of deaf parents learn sign as a native language. The form and structure of spoken language is being compared to that of sign languages. Studies of spontaneous signing, of paraphrases, of folk art, and experiments in memory for signs are used. Language studies include investigations of semantic development of negation, interrogation and sentence structure in general.

BLASDELL, Richard, Julia DAVIS, and Bruce TOMBLIN. Dept. of Speech Pathology and Audiology, University of Iowa, Iowa City, Iowa 52240. Methodological procedures to elicit generative processes. English. 30-50. 4-8 yrs. Experimental design in language research; assessment of appropriate statistics; behavioral indices of generative grammatical and semantic processes.

Blasdell: use of sentence completion stimuli with preschool Ss. Stimuli include VP complementation and (NP) relative clause transformation sentences. Davis: use of sentence completion stimuli with preschool Ss. Results analyzed with respect to 'competence' of school-age hearing impaired. Tomblin: assessment of phonological disorders from generative perspective.

BRISK, Maria. Center for Applied Linguistics, 1611 N. Kent St., Arlington, Virginia 22209. Bilingual education.

I am writing a directory of bilingual education programs in the U.S. which will include name and address of the program as well as a description. This directory will have cross-classification indices according to languages and different models of bilingual education. It should be ready for print this summer.

CHAPMAN, Robin S., and Jon F. Miller. Department of Communicative Disorders, University of Wisconsin, 1975 Willow Drive, Madison, Wisconsin 53706. Syntax. American English. 10. Does production precede comprehension?

Recent syntactic analyses of the early two and three word utterances of normal English-speaking children have led investigators to infer an underlying S-V-O structure for a majority of these sentences (Bloom, 1970). That is, a syntactic basis is postulated for word-ordering in early two and three word sentences. Add to this the postulate that comprehension of syntactic structure precedes production of those structures (derived from the work of Fraser, Bellugi and Brown, 1963). The QED of this syllogism is that children whose productions give evidence of an underlying SVO basis should be able, at the same time or earlier, to comprehend sentences in which word order is the only signal to deep structure subject and object relationship. There is some reason to believe, however, that this conclusion is incorrect. For example, Fraser, Bellugi and Brown

(1963), Carron (1968) and Owings (1972) report failures to comprehend S and O in the active voice among children aged 3;1 to 5;0, although children of these ages are usually beyond the early two and three word utterance stages in which Bloom (1970) has identified S-V-O structures. Further, examinations of the scoring procedures used in the 1963 study have cast doubt on the premise that comprehension precedes production at all (Fernald, 1972; Baird, 1972). Since the very young child ordinarily has the support of the referent situation for comprehension, he may seldom need to rely on word order alone. Therefore, the present study tests the prediction that syntactic production will actually precede comprehension.

CLARK, Eve V. Committee on Linguistics, Stanford University. Semantics and cognition. English. children aged 1;6 - 9;0 yrs. The relation between cognitive complexity and semantic complexity; the analysis of semantic complexity and derivation of predictions about order of acquisition within different semantic fields; the processes involved in the acquisition of semantic knowledge and the semantic structure of a particular language.

At present I am carrying out a series of studies on the acquisition of semantics in first language learning; some of the issues that are being explored are the role of percept-based information in the setting up of lexical entries for words and in the use of strategies to interpret 'unknown' or 'new' words. In addition to this, I am concerned with the relation between semantic complexity and the order of acquisition of words within a semantic field, as in the set of dimensional adjectives in English. Semantic complexity has been used to predict order of acquisition in the fields of dimensional terms (e.g. big-small, wide-narrow) in their simple forms as well as in their comparative forms (with -er endings). Others are concerned with children's comprehension of deictic words in English, and the relation between deixis and the attribution of roles (e.g. speaker, hearer, etc.) vis-à-vis the source and goal of motion.

COKER, Pamela L. SWRL Educational Research and Development, 4665 Lampson Ave., Los Alamitos, Calif. 90720. Semantic development of polar opposites. English. 2800. Approx. 5 yrs. The roles of lexical marking in determining semantic features of the child uses.

As part of a pre-reading skills analysis in Education, a test assessing the child's comprehension of polar opposites (large-small, tall-short, thick-thin, before-after) and their comparatives was administered in the Fall to approximately 200,000 kindergarten children in 17 states across the nation. A random sample of 2800 was drawn from the larger sample and is presently being analyzed. Preliminary item analysis indicates that the hypothesis that children learn the unmarked term before the marked term is not supported. Subsequent analyses which group subjects by response patterns will hopefully clarify the role of lexical marking in the semantic features a child uses in acquiring polar opposites. Alternative possibilities for a semantic feature hypothesis will be further explored using a variety of tasks beginning in April 1973.

COMPTON, Arthur J. San Francisco Hearing and Speech Center, 2340 Clay St., San Francisco, Calif. 94115. Phonology. English. 40. 11 mos. - 3 yrs. and kindergarten (5-6 yrs.) Abnormal and normal development of phonology and relationships with historical sound change.

The overriding focus of this research program rests upon the question of just what does a child gain control of when he learns or mis-learns the sound system of his language. The central thesis is that the "just what" is a highly organized and intricate phonological system. The goal of the project, then, is to explicitly describe (and compare) the linguistic organization of the sound systems of both normal and speech defective children. Two primary objectives are to derive thorough, generative-phonological analyses of (1) the organization of the sound system of children beginning with the onset of talking and continuing to approximately three years (by analyzing longitudinal speed samples collected from children starting with the first words at about 12-14 months), and (2) the organization of the sound system giving rise to deviant speech patterns of children who have developed defective speech -- also taking into account the analyses of the normal developmental data which will serve both as a point of comparison and reference in defining 'defective' or abnormal -- (by analyzing the articulatory error patterns of five and six-year old children with moderate-severe articulatory disorders). A third, but equally important, objective is to test the clinical implications and applications following from the phonological analyses of the defective sound systems (by tailoring individual therapy programs for each child based upon the organization of his own deviant system of speech).

COOPER, Catherine. Child Development Division, Department of Home Economics, University of Texas, Austin, Texas 78712. Development of communicative competence. English. Expt. I: nature of social class differences in language use; expt. II: relation of question-asking to role-taking; expt. III: see below.

I. Training inquiry behavior in children from low-income families (30 four-year-old Anglo children low ses). Experimental training, based on component skills of inquiry process, included practice in problem detection, formulation, and compilation by means of modeling, social reinforcement, explicit instructions, and availability of answers (knowledge of results). Control condition, designed to equate exposure to materials and E, also approximated conditions of informal educational settings with attractive materials and attentive adult who minimized status differences. Experimental Ss showed greater increase in number and productivity of questions to E and to unfamiliar adult, but not to teacher.

II. Development of communication skills (with R. Cooper, Psychology Dept., University of Texas); NS, 2nd and 4th grade children, 40/group.

This study is being conducted to assess relation between developing skills in obtaining information from others (question-asking) and in communicating information effectively.

III. Child-parent interaction of children of normal and superior intelligence (with L. Willerman, Psych. Dept., Univ. of Texas); 1-3-year-old children and mothers.

DAVISON, Anni. Department of Linguistics, University of British Columbia, Vancouver 8, B.C. Canada. Syntactic-semantic development. French. 3. Remi, boy: 1;10, 27 - 2;1, 2. Jean, boy: 2;0, 23 - 2;2, 21. Sophie, girl: 3;2, 6 - 3;4, 4.

The data were gathered from September through December of 1972 in unstructured situations. There were 10 sessions with the youngest child, 11 with Jean and Sophie together and 2 with Jean alone. The sessions were approximately one hour long each and they were either taped in part or in whole. During the time of the observations, the youngest was at the holophrastic stage, Jean at the telegraphic stage, and Sophie was a very fluent speaker of French. She had not as yet established the distinctions in gender and number, and had difficulties with reflexive verbs, the subjunctive, and the imperative. Still, there were greater similarities than dissimilarities between Sophie's French and the adult version.

At the time of the study, the children's exposure to English was minimal. Thus, it may be safely assumed that the data gathered are from monolingual French speaking children.

The analysis of the data will be primarily concerned with providing a syntactic-semantic description of the three stages in the acquisition of French.

De STEFANO, Johanna S. 200D Ramseyer Hall, Ohio State University, Columbus, Ohio 43210. Sociolinguistic development, primarily in school age children (register, etc.). English. School children. 5-12 yrs. Determination of nature of acquisition of sociolinguistic system operating in speech community.

This ongoing research is and will continue to include data collected in situations which vary in degrees of formality for children to test various hypotheses about the nature of register acquisition and register switching especially in the educational domain. This research also continues to investigate the 'sociolinguistic consciousness' of children, e.g. the development of the awareness of situationally appropriate forms.

DELACK, John B. Audiology and Speech Sciences, University of British Columbia, Vancouver 8, B.C. Canada. Prosodic analysis of infant vocalizations: a longitudinal study. English environment. 18. Birth-15 months. Development of sound-meaning correspondences (based on 'prelinguistic' infant vocal behaviour); role of 'babbling' in the child's acquisition of language.

The present study is designed to provide detailed, reliable, normative data on the evolution of infant speech sound production during the first fifteen months of life. By tracing longitudinally the emergence and development of infant vocalizations, including observations on the context in which they occur, this investigation seeks to establish the salient features of infant vocal output, as well as their normative values along various dimensions. Instrumentation involves the sound spectrograph and related equipment for the examination of fundamental frequencies and formant resonance patterns inter alia, derived from tape recorded data obtained during biweekly home visits. In order to assess the responses of each infant accurately and to assure an adequate means of comparison from child to child and from family to family, standardized tests of motor and psychological development (i.e., Bayley Scales of Infant Development, revised 1969) are administered at three-month intervals; likewise, the psychological home environment is monitored at regular intervals by means of attitude questionnaires and other testing instruments. The emphasis of the programme is on the obtaining of sufficient data relating to the natural history of infant vocal behaviour; consequently, the research is being accomplished in a strictly empirical fashion, without recourse to theoretical models, although these will be examined and evaluated in light of the project's results. Following preliminary analysis, it seems likely that current notions concerning the nature of infant speech will require extensive revision.

DICKSON, William Patrick. School of Education, Stanford University. The development of communication skills in young children through peer interactions. English. 96-in progress. 3;6-8;6 yrs. What types of referents are young children able to communicate with each other about? What aspects of peer interaction contribute to the development of communication skills in young children?

Communication between dyads of young children is being studied using a communication game device. A set of four stimuli are presented via rear-projection screens to two children who are seated so that they cannot see each other's display. One child presses a button under one of the stimuli and then tries to describe it to the other child. If the second child pushes the button under the corresponding stimulus, the next set of stimuli is presented. If the choice is incorrect, red lights provide immediate feedback to both children and they continue until the correct stimulus is chosen.

The stimulus displays are varied systematically according to type (concrete, relational, Krauss & Glucksberg's abstract figures), redundant

information, irrelevant attributes, and presence or absence of context. Analysis is being carried out on error patterns and message characteristics across trials.

DICKSON, William Patrick, and Robert D. HESS. School of Education, Stanford University. Cross-cultural study of the development of school-readiness. Influences of mother-child interaction on the communication skills of the child. English and Japanese. Approx. 200 dyads (in progress). Adult-child pairs, child 4;0 yrs. Social class and cultural differences in a communication task.

Communication between adults and 4-year-old children in the United States and Japan is being studied using the Dickson Communication Game. This game uses two notebooks wired together so that four buttons on one notebook correspond to four lights on the other notebooks. Each notebook contains a set of pages with four pictures per page. The buttons and lights are under corresponding pictures. Stimuli include concrete figures (e.g. animals), geometric forms, relational figures, and Krauss and Glucksberg figures.

The task requires the mother or preschool teacher to describe one of the four pictures so that the child is able to push that button, providing feedback to the adult. If the choice is incorrect, the adult continues until the child succeeds. The two subjects then change roles and the child must describe for the adult. In addition to the accuracy score audio transcripts are scored for quality of message, use of reinforcement, criticism, orienting instructions, etc. Videotapes of the interactions are scored for nonverbal interactions.

This task is a part of a larger study of mothers, teachers, and preschool children in Japan and the United States. The sample is approximately 100 dyads in each country. Analysis includes cross-cultural and social-class as variables.

DRACHMAN, Gaberell. Department of Linguistics, Dieter Cunz Hall, The Ohio State University, Columbus, Ohio 43210. Phonology. Modern Greek. The use of hypocoristics to get at acquisition processes.

The shapes of baby-talk forms can be shown to correspond to a range of stages of child language acquisition (Drachman, 1972). They also show the influence of the adult language in being sensitive to dialect. But the only baby-talk forms for which the child processes of degradation are quite unambiguous are those clearly derived from (fuller) adult forms, and these are unfortunately few and for the most part very grossly degraded. On the other hand the semantic field of hypocoristics, which resemble baby-talk forms in many important ways, is very much larger. Moreover, since the use of hypocoristics extends over the whole of the acquisition period and even into adult life, their shapes are unconstrained in comparison with those of baby-talk forms, and in fact spread over

the whole range of child (and even adult) acquisition processes. Using data mainly from Modern Greek, this study will try to disengage the adult from the child processes and draw some morals concerning the synchronic presence of 'diachronic' (acquisition) processes fossilized in hypocoristics.

EDWARDS, Mary Louise, and Barbara Handford BERNHARDT. Scottish Rite Institute for Childhood Aphasia, 600 Willow Rd., Palo Alto, Calif. 94304. Linguistic and non-linguistic aspects of the acquisition of three prepositions denoting spatial relationships. English. 7. 3;6-5;6 yrs. Non-verbal vs. verbal performance; production vs. comprehension; order of acquisition; the use of strategies and the emergence of error patterns.

Seven children receiving therapy at the Scottish Rite Institute for Childhood Aphasia at Stanford University are being tested to discover their comprehension and use of the prepositions in/on/under. The study has three main parts: 1) verbal comprehension; 2) verbal production, both spontaneous and in imitation; 3) non-verbal matching and imitation tasks. Each of these three parts has two sub-sections, one using six small familiar objects and one using six sets of three pictures each. The following issues will be examined in the analysis of the data: 1) the order of acquisition of in/on/under, including a comparison with a similar study by Eve Clark; 2) the relationship between comprehension and production; 3) the relationship between performance on non-verbal and verbal tasks; 4) the use of particular strategies and the emergence of error patterns. Because of the small number of subjects and their various language problems, comparisons between children will be made only after each child's responses are studied in depth.

EDWARDS, Mary Louise, and Barbara Handford BERNHARDT. Institute for Childhood Aphasia. Phonology. English. 6. 3;3-5;3 yrs. Normal vs. abnormal phonological development; phonological similarity in the speech of a set of twins; the use of extensive phonological analyses in a clinical setting.

The phonological systems of 6 pre-school children receiving therapy at the Scottish Rite Institute for Childhood Aphasia at Stanford University are being formulated and analyzed. Basic word cards and familiar objects are used to elicit words containing all of the English consonant sounds in all positions. All single word utterances are transcribed in narrow phonetic transcription using the standard IPA notation supplemented by symbols innovated by the Stanford Child Language Project. The transcribed utterances are studied, and phonological processes are hypothesized to account for the surface substitutions. These processes are being compared to those put forth in similar studies of normalchildren. Since two of the children are twins, their phonological systems are being compared in detail. In addition, this method of phonolog cal analysis is being adopted for use in a clinical situation.

EDWARDS, Mary Louise, and Olga GARNICA. Institute for Childhood Aphasia and Committee on Linguistics, Stanford University. Phonology. English. 7. 1;11 - 2;4 and 3;3 - 5;3 yrs. Phonological variation in imitated and spontaneous utterance.

The relationship between spontaneous and imitated utterances has long been a point of controversy among linguists. This study attempts to discover specific relationships that may pertain between the two types of utterances and to formulate a more precise system for coding child utterances. Four normal children and three slightly older linguistically deviant children participated in the study. Each child was seen for one twenty minute recording session. In this session the child was presented with a series of familiar objects and pictures and was asked to name each one as it was presented. Immediately following this spontaneous response the child was asked to repeat the word after the adult experimenter. After the responses were transcribed in narrow phonetic transcription, a detailed system was worked out to code them. All utterances were then studied and compared. The data indicate that there are no substantial or systematic differences between spontaneous and imitated forms and that, in fact, the imitated forms may supply useful information concerning variation in the child's phonological system. Interesting relationships do sometimes appear between consecutive utterances of a word. One example is reciprocal trade-off: in the second utterance one sound may improve while another gets worse. However, nearly all of the phonetic changes are within the normal range of variation for the child.

EHRI, Linnea C. Department of Education, University of California, Davis, Calif. 95616. Relationship between linguistic and cognitive development. English.

My research projects have focused upon the relationship between syntactic and semantic aspects of language and various cognitive capabilities (i.e. thinking, remembering, reading). I have examined child and adult memories for sentences varied in terms of deep and surface structure. I have investigated the emergence of antonym adjectives in children ages 4 to 8. This project entailed re-examining some of the Piagetian claims regarding the relationship between lexical development, production and comprehension of linguistic structures (comparatives, coordinated language), and operativity (seriation). I have recently solicited funds for a study to investigate the relationship between language (word consciousness, intonation patterns, phrase structure patterns) and reading in children.

ENGEL, Walburga von Raffler. Linguistics Department, Vanderbilt University, Nashville, Tenn. The correlation of language development and the acquisition of kinesics. Italian, French and English. 2 of 2-3 yrs; 14 of 6-8 yrs; 8 of 6-7 yrs. What is the difference, if any, in the acquisition of these two modes?

The observation that I have never seen a baby (empirical observation on children of various backgrounds in a variety of countries over the last ten years) who would not wave with his hand while saying bye-bye, or its equivalent, has induced me to believe that the baby has a gestaltist perception and cognition of the sound and the gesture combined. I have investigated the issue on other verbalizations by older children (see languages and subjects above) and have reached the conclusion that indeed the linguistic and the kinetic systems are acquired at the same time and in a co-variant relationship. I have then observed retarded children and their behavior has strongly reinforced the conclusion from the research on normal children. My data will soon be available in print.

FERGUSON, Charles A., Caroline STOEL, and Marlys MACKEN. Stanford Child Language Project, 671 Oak Grove, Nos. F and O, Menlo Park, Calif. 94025. Phonology - acquisition of consonants. Spanish. 30. 1;0 - 4;0 yrs. Universals of developmental phonology; phonological strategies.

Production data on the development of consonants over a year-long period have been collected for six prime subjects, Spanish-speaking children in Redwood City, California. A one-month-long replication of this study was done in Mexico City, Mexico, yielding comparable and confirmatory data for 24 Mexican children. Both sets of data have been independently transcribed by 2 researchers, using the IPA-based, child language transcription system developed by the Stanford 1971-1972 Phonetics Workshop (cf. C.N. Bush, in progress); final group transcriptions have been made according to established Workshop guidelines. Data analyses confirm a limited set of universals for the acquisition order of sound classes and features (e.g., stops and nasals before fricatives; voiceless before voiced) and for the operation of certain phonological rules and processes (e.g., cluster reduction; nasal assimilation). Some patterns appear to be language specific and related to particular structural characteristics of Spanish (e.g., /ð/-liquids interaction; dialect-based substitutions--[β] — [v]). Finally, individual differences provide evidence for 'phonological strategies' (e.g., alternative paths in acquiring liquids; regressive forms in voiceless fricatives; individual phonological features associated with the form and function of the lexicon). Reports are in progress.

GOLICK, Margaret. Department of Linguistics, McGill University, Montreal 109, Quebec, Canada. Syntactic and cognitive development. English. 10. 8-11 yrs. What is the nature of the linguistic deficit in school age children with mild language disorders?

I am studying the language of school age children who have reading and spelling difficulties. Relatively low scores on verbal intelligence tests, but average or better than average non-verbal I-Q scores. The language

samples include the taped verbal intelligence tests, spontaneous conversation, story-telling, explanations, directions, as well as responses to a number of imitations, production and comprehension tasks devised for the study. I am hypothesizing that the auditory processing difficulties (perceptual and or memory) all of these children show constrains the form of the grammar they can learn. Thus they will rely on language-processing strategies characteristic of younger children and fail to 'notice' some of the rules in their language -- particularly those that depend on the precise processing of the surface structure. The absence of certain structures from their grammar can explain some of the failures on verbal intelligence tests, reading and reading comprehension errors as well as every day failures to follow directions, misunderstandings, etc. The impression to date is that these children are poor learners of the linguistic code but able to express the same logical and conceptual notions as other children.

GREENFIELD, Patricia, and Carla CHILDS. Department of Psychology, Stanford University. Semantic development. Tzotzil. 66. 4-5; 8-10; 13-18 yrs. Psychological reality of componential analysis.

We studied the acquisition of the ability to comprehend kinship terms of reference by Zinacanteco children. The Zinacantecos are a Mayan people, living in the highlands of Southern Mexico. Our method was to ask each child questions about all possible relationships within his or her household, for example, "Who is your older brother, John's younger sister?" Questions were asked in both directions; for example, the above question could for a particular subject, be turned aroung to: "Who is your younger sister, Mary's old brother?" Our analysis revolves around responses to sibling questions. In Tzotzil, the system of sibling terms has three componential dimensions: sex of speaker, sex of sibling, and age of sibling relative to speaker. Our results contain some evidence for the psychological reality of such components, although general cognitive rather than specific cultural factors seem to determine the order in which components are acquired. The main factors are involved in the increasing ability to answer the various kinship questions with age seemed to be general cognitive ones unrelated to the semantic structure of the terminological system itself.

GREENFIELD, Patricia, Joshua SMITH, and Bernice LAUFER. Department of Psychology, Stanford University. Semantic/grammatical development. English. 2. 8 months 2 yrs. Semantic aspects of grammatical development, universals of language, role of the environment in language development.

This study focused on the relation between situational and linguistic structure in the process of language development. We followed two children from the emergence of their first meaningful word through the stage of single-word utterances to the establishment of word combinations. The basic method for discovering the structure of one-word

utterances was semantic interpretation through the expansion of the child's single words by an adult. In addition, precise specification of the situational cues underlying every expansion was sought. Basically, we classified utterances in terms of semantic function by translating Fillmore's case grammar into situational terms. Thus, for example, if the child's word referred to the Agent of the referential event, it was considered to function as an Agent. We found a definite order to the emergence of semantic functions in one-word speech, both in spontaneous speech and in response to adult questions. Each unit consisting of adult question and child answer was treated as a two-person semantic relation. Our results suggest that these units of dialogue may lead to the child's first two-word sentences. Finally, once the children were capable of expressing a wide variety of semantic functions, it was possible to predict which aspect of the referential event would be verbally expressed -- Agent or Action, for example -- in terms of the greater informativeness of the expressed aspect.

GREENLEE, Mel. Linguistics Department, University of California, Berkeley, Calif. 94720. Phonology (particularly emergence of consonant clusters and single consonants). English. 2. 2-3 1/2 yrs. Advantages of the use of generative approach using features over phoneme-learning as the base of child's phonology; evidence for child's underlying form as the adult form.

Data was collected in a diary study format from two children, although one child was observed longer than the other, (2;3-3;6). Elicitation techniques included: free speech, normal imitations and 'reverse imitations', in which the child was imitated by the adult; as well, pictures of fantasy objects were named by nonsense words containing the desired clusters (e.g. sl-, sn-, sw-) for imitation. Generative phonological rules were written for 3 stages of the child's consonant production. Results indicate that although the child does not reproduce adult clusters, his production shows awareness of features of the adult cluster, often by conflation of the 2 segments' features into only one (e.g. initial s + nasal as voiceless nasal). Such conflation-rules are equally productive at 3 yrs. in free-speech, imitation, and nonsense imitation.

HOSKISSON, Kenneth. College of Education, Virginia Polytechnic Institute. Blocksburg, Va. 24061. Assisted reading.

I am not doing any theoretical work but am translating research into possible ways of looking at children as language users. An article on assisted reading will be published in The Reading Teacher at some later date. The article indicates that assisted reading may be one means by which parents can become actively involved in helping their children in learning to read.

INGRAM, David. Department of Linguistics, University of British Columbia, Vancouver 8, B.C. Canada. Phonology. English. 1. 1;4 - 2;3 yrs. Sound substitution.

The study of phonological acquisition has frequently been characterized by the notion of 'sound substitution'. This ordinarily assumes that a child cannot pronounce one sound and substitutes another one for it. This approach ignores the general effects of phonological processes such as assimilation, syllable deletion, etc. In this study, I am analyzing the longitudinal data from one child, using the following definition for the description of a sound: Segment W occurs in place X (initially, medially, or finally) at the percentage of Y. Also, it undergoes processes Z_1, Z_2.... Z_n. It is expected that this preliminary work will show that substitutions affect only a small number of sounds, and that the greatest part of phonological development is the suppression of general phonological processes. Also, it is hoped that the results will shed some light on the question of sequential appearance of such processes.

JOHNSON, Helen L. Department of Speech Pathology and Audiology, University of Iowa, Iowa City, Iowa 52240. Semantic development. English. 4-5 1/2 yrs. Egocentric speech, sentence interpretation strategies, relation between comprehension and performance.

Research is concerned with preschool children's spontaneous descriptions of 2-action sequences, and their comprehension of sentences describing 2-action sequences which are temporally ordered with before and after. In the production task of the initial study, almost half of the responses were omissions -- i.e. children described only one of the two actions. Omissions were not related to temporal position of the action in the sequence, and appear to have been based on the salience or interest of the event for the child. A study exploring the possibility that the omissions are instances of Piagetian egocentric speech is now underway.

The initial study also included three sentence comprehension tasks, and revealed that children's performance on each task was greatly influenced by specific task features. Children's strategies for interpreting temporal order information in sentences were examined. The data indicated that order of mention accounted for a greater part of the responses than main-subordinate constructions. However, this was due in part to the confounding of coordinate subordinate sentence constructions with directness of command on tasks where comprehension was evaluated in terms of response to commands. A more adequate assessment of the relative importance of order of mention -- order of occurrence correspondence versus coordinate-subordinate constructions in temporal order information processing is now being planned.

JOHNSON, Helen L. Department of Speech Pathology and Audiology, University of Iowa. Syntax. English. 6-11 yrs. Does the child's use of a causal sentence construction necessarily indicate that he has mastered the adult concept of causality, or does it actually reflect the way he processes language?

Thirty-two stimulus sentences were derived from 4 sentence constructions using because, so, and and. Half of the sentences of each construction were acceptable, half unacceptalbe (in these, the usual sequence between cause and effect was reserved). Children did four tasks with each sentence: acceptability judgment, recall, temporal sequencing, and why-response. The judgment task examined the child's awareness of the usual relation between cause and effect, and of the clause order constraints associated with each sentence construction type. In recall, the main concern was the type of errors made: were they primarily corrections of unacceptable sentences, substitutions of one conjunction for others, or reorderings of sentence clauses? The temporal sequencing and why-reponse tasks dealt with the child's understanding of two specific aspects of causal statements: the sequential and conceptual relations, respectively, between cause and effect. Results indicated that children used four different strategies for interpreting causal statements. These emerged in a development of sequence: first, the associative strategy (which corresponds to Piaget's description of early notions of causality); then the semantic; then the order of mention; and finally the syntactic. Generally the results suggest that the child's processing of language changes with age, and that the features attributed to the child's conceptual development characterize the child's processing of language itself.

JOHNSTON, Judith. Department of Psychology, U.C. Berkeley. Cognitive development and the use of five locatives. English. 25. 3-4 yrs. Does the child's use of a word reflect his knowledge of related spatial concepts?

25 children, aged 3-4 yrs, were tested to determine their level of development on two non-verbal spatial tasks and to determine their knowledge of the locatives in, on, behind, in front of, between. The order of acquisition of these locatives was found to be consistent across subjects, and to closely mirror the order of the child's earliest sensorimotor manipulation of objects. The children's use of the locative in varying contexts was found to be related to their performance level on the cognitive tasks. These results are discussed within a Piagetian framework, and provide some new support for her theories of the development of spatial concepts, and the symbolic function. The word is viewed as a symbol which represents cognitive structures; the child's use of a word will therefore reflect his spatial concepts. By exploring these spatial notions we can get some insight into the child's word meanings. Although just a pilot study, the results seem to warrant further use of this approach.

KESSLER, Carolyn. Institute for Childhood Aphasia, 600 Willow Rd., Palo Alto, Calif. 94304. Syntactic development in children with language dysfunction. English. 25. What are the general characteristics of syntactic development at various levels for a group of aphasic children? Can implicational rules be set up to characterize each level?

Evidence is available that the mean number of morphemes per utterance (MM/U) for children acquiring language indicates stages of linguistic development. Although children with language dysfunction reach these levels later than normal children, research indicates that the grammars of both normal and linguistically deviant children are qualitatively similar at each stage. As the child progresses from one level to another, however, relatively little is known about the specific rules of grammar that are incorporated.

Research is underway to determine, if possible, general characteristics of syntactic development at each level for a group of aphasic children undergoing language therapy. Language samples obtained from picture stimuli have been collected at three-month intervals for each of twenty-five children participating in the investigation.

After the MM/U is calculated and plotted on each child's language development profile, a linguistic analysis is made for the respective stages. Case grammar, including consideration of syntactic features on noun and verb phrase categories, forms the theoretical basis for analysis. It is hypothesized that certain syntactic rules require the presence of other rules and that these relationships can be specified in terms of implicational rules. Identification of sets of implicational rules may provide a means for the linguistic characterization of each level.

LAPINSKI, Rita M. School of Social Sciences, University of California, Irvine, Calif. 92664. Paralanguage, movement behavior. English/Spanish. 12. Neonates. Bioenergy patterns in human communication modalities.

This research project entails an analysis of infant movement behavior along with concomitant babbling. Six Anglo-American and six non-Indian Mexican infants were observed in a natural setting with portable videotape equipment for eight weeks (birth through two months). Auditory portions of the videotapes were converted to digital data by means of oscilliscope tracings. Visual records of relative intonation properties of intensity, pitch, and extent (Trager's vocal qualifiers) were measured and compared with the similar relative parakinesic parameters of force, space, and time in body movement.

The results reveal: (1) individual envelope patterns of babbling tracings for each infant, (2) certain commonalities in English babbling and movement behavior rhythms of the Anglo-American infants, (3) certain commonalities in Spanish babbling and movement behavior rhythms of non-Indian Mexican infants.

LIMBER, John. Department of Psychology, University of New Hampshire, Durham, NH 03824. Very early (morpheme structure, phonology, and syntax, especially complex constructions). English. 12. 12-48 months.

1. Initial segmentation and phonological representation:
How does the 12-month-old child isolate potential word forms from the continuous speech stream? Even the echolalia exhibited by many children around this age (later suppressed in most) indicates a sophisticated, certainly non-random system of analysis, representation, and production. Examination of the input-output relationships observed at this age suggests that by this time children effectively pick out the stressed syllable of the utterance final word and reproduce it, with some exceptions, with appropriate phonetic values within a CV(CV) morpheme structure schema. Obvious virtues involving short term acoustic memory, position of content words, and complexities of the English vowel system recommend this strategy. It remains to be seen if this process is conditioned by previous exposure to English prosodics.
2. Complex sentences:
By three years many children are producing a variety of complex sentence types. One exception not linked to any concept domain involves sentences involving subject NP embedding. We have observed no subject complements, relatives attached to matrix subject NP, or subject relatives attached to matrix object NPs. Why? Obvious possibilities invoke notions of interrupted clauses, etc. thought to cause some degree of difficulty in fluent speakers. Our data suggest another possibility; namely that the kinds of subjects children use at this age simply don't need (and cannot take) embeddings -- relatives or complements. In three children between 2 and 3 yrs., we have observed in 12 monthly recording sessions that over 90 percent of subject NPs are either names or pronouns. This is a conservative estimate in fact. In contrast object NPs have much greater diversity (30 percent names and pronouns), i.e. more information, less predictability, and therefore more need for syntactic expansion.

LUCAS, Thomas, and Edward MUELLER. Psychology Department, Boston University, Boston, Mass. 02215. The development of communication skills in one-year-olds. English. 2M. 14-24 months. The social orientation of prelinguistic speech between peers, and the origins of effective communication.

The summons-answer routine and the rhetorical gambit are specialized communication strategies of a conventionalized form; the former serving to secure the listener's involvement, the latter to maintain it. An analysis of the videotape recordings of the play of two one-year-old boys revealed a precursor to these strategies in the form of the "da" game delimiter. Like its more sophisticated successors, the delimiter was found to be a three-move strategy, involving a verbal attention-getting device in the first move. The delimiter served to initiate social interactions and to re-initiate those which had begun to falter. However, the rules which governed the sequencing of moves and the division of tasks within the system were found to be much less rigidly defined.

MENYUK, Paula, Mary M. KLATT, Anthony S. BASHIR, and Patricia L. LOONEY. Boston University, 765 Commonwealth Ave., Boston, Mass. 02215. Perception and production of speech. English. 18 months - 7 yrs. Determine nature of primary versus secondary feature distinctions, the interactions of semantic, syntactic and phonological information at various stages of development with normally developing children and children with specific language disorders.

The development of speech sound feature distinctions is being examined by using both natural and synthetic speech stimuli to test categorization within speech sound sets. Thus far, it has been found that the time of acquisition of the distinction of the features of place is dependent on the nature of the speech sound set in both perception and production and that there are differences between the perception and production of these distinctions at various stages of development (Menyuk, 1967, 1972; Menyuk & Anderson, 1964). The effect of the interaction of aspects of the components of the grammar on speech comprehension and production is being examined by investigation of the perception and production of varying intonation contours, stress, pause and features of initial versus final segments and sequences in words, phrases and sentences. Thus far, it has been found that varying intonation contours are used on the same morpheme at the one word stage (Menyuk & Bernholtz, 1969) and that, at this same stage, observation of differences between the features of singleton Cs and clusters in initial position have already been made and are used (Menyuk & Klatt, 1968). The phonological processing of children with specific language disorders is being examined by testing linguistic conditions for lexical retrieval, speech sound categorization, and retrieval of morphological versus phonological segments and sequences. Thus far, it has been found that these children reproduce to the best of their ability the segments of the word stem, but rarely reproduce the final segment or sequence when it is a marker of tense, pluralization or possession (Menyuk & Looney, 1972).

METWALLI, Maryellen B. Department of Education, Harper Hall, Claremont Graduate School, 10th Street, Claremont, Calif. 91711. Language and perceptual-motor development. Arabic. 301. 3-8 and 18 yrs. A cross-cultural study designed to collect data to test the hypothesis that the acquisition of reading and writing skills imposes a linear directional set on perceptual-motor operations.

The process of acquiring and developing reading skills in English seems to affect the perceptual organization and directional set of children in a left-to-right direction (Elkind and Weiss, Child Development, 1967). Further, the greater the degree of proficiency in the acquisition and development of literacy skills in English, the greater the directional effect, left-to-right set, on perceptual-motor organization (Reagan & Cropley, Perceptual Motor Skills, 1964). If it is, in fact, the acquisition and development of literacy in English that imposes a left-to-right perceptual set, then children who are acquiring and developing literacy in

Arabic will demonstrate a right-to-left perceptual organization on similar tasks.

The research will be conducted in the public school system in Cairo, Egypt. Data will include entry point, operational procedure (directional), sex, age, grade, handedness in performing the tasks, handedness in writing own name, and eyedness.

MILLER, Jon F. Department of Communicative Disorders, University of Wisconsin. 1975 Willow Drive, Madison, Wisconsin 53706. Developmental comprehension of syntactic form. American English. Normal and retarded children. 2-10 yrs. Comprehension of grammar; what is it the comprehension of?

Within the past year a procedure was developed which allows for the assessment of grammatical comprehension through several response modes. The internal reliability has been established (.93) and an item analysis computed for the procedure with 120 normal children, ages 3-6. This procedure has been employed in several studies to examine methodological variables in comprehension assessment. These studies have been carried out primarily with retarded children. The goal of this research is to develop adequate assessment procedures for retarded children, as well as describe the factors affecting the child's comprehension of grammar throughout the developmental period.

Work is also continuing on language teaching programs for retarded children. The syntax teaching program is being extended both in range, developmentally, and depth. Pre-syntax teaching programs are being developed to provide unique programming strategies for severely retarded children.

MIYAMOTO, John M. 506 Packard, Ann Arbor, Michigan 48104. Syntactic development. English. 1. 22-34 months. The problem of representing grammatical development through a system of formal rules.

I have collected a series of speech samples for a child aged 22 through 34 months. In addition to the spontaneous speech occurring in the home environment, the data includes a description of the non-verbal context in which the utterances occurred. I am just beginning the analysis of the data. The central question that I am asking is whether grammatical development can be viewed as the development of a system of formal rules.

NEWMARK, Leonard. Psychology/Linguistics Building, University of California, San Diego, La Jolla, Calif. 92037. General language performance. English. Kindergarten children. The effect of small group mixes on the acquisition of language.

The Center for Research in Language Acquisition is proposing a project to study the effect of small-group population mixes on the acquisition of language. The project will study changes in language performance over

a year by children in San Diego kindergartens to determine how the proportion of Anglo to Chicano and Black to White mixes in the classroom affects the language change in individual children over the one-year period.

If the hypothesis is borne out that language acquisition is greatest when there is a strong numerical preponderance of speakers of the target language or dialect in the group, it will have serious implications on policy decisions governing the composition of classes -- e.g., bussing, class assignment, planned heterogeneity or homogeneity in classrooms, etc. -- since language (dialect) acquisition is an important index of the degree to which the learner indentifies with and is identified with particular social groups. With confirmation of the hypothesis, the CRLA will move the study into the laboratory in the following year, in order to determine whether the effect is due to the quantity or the distribution of the language models, whether it is age-dependent, whether it is the ratios or the absolute numbers that determine preponderance, the degree to which the effect is independent of extra-group factors -- for example, a subhypothesis is that social pressures outside a group (e.g., a classroom) decrease in importance for the minority member of a group as the predominance of the majority in the group increases, disappearing completely for the learner who is alone for a protracted time period in an otherwise homogeneous language group.

NIEDERMAYER, Sigrid M. Department of Linguistics, University of British Columbia, Vancouver 8, B.C. Canada. Morphology and syntax. German. 2 girls. 3;0, 4;6 yrs.

Two children learning German as a first language are being observed longitudinally to determine the development of auxiliary verbs and word order in subordinate clauses. The results will be examined for evidence either for or against the analysis of auxiliaries as main verbs and German as an underlying VSO language.

NYGREN, Carolyn. Central Institute for the Deaf, 818 S. Euclid, St. Louis, Mo. 63110. Input to the child. English. 29. 2-5 yrs. The role of input in the language acquisition of deaf children.

Hearing impaired children from 2 to 5 yrs. of age and their mothers are being taped twice a year doing a cookie making activity in a demonstration house. Five minutes of each tape are analyzed for amount of communication on the part of the child and mother and for two other parental behaviors which have been thought to be instrumental in a child acquiring oral language -- the responsiveness of the mother to the child's attempts at oral language and the ability of the mother to structure situations so that the child must look to her mouth for information. Independent ratings are being made of the children's expressive and receptive language ability by both teachers and mothers. We will attempt to correlate the scores on the measures of behavior with these ratings of

language ability. Three pilot studies using the tapes are also being conducted. These studies are investigating the structure of sentences used by mothers in talking to their hearing impaired children, the role of natural gesture in language development, and the strategies mothers use to get across information to their children.

OESTMAN, Bethel. Box 97 CHRB, Saipan, Mariana Islands, 96950. Acquisition of verb prefixes. Yapese. 6. 1-4 yrs. Cognitive vs. linguistic constraints on verb tense/aspect acquisition.

(Research hasn't begun -- will begin in July, 1973)
Research with English-speaking children shows that verbs are acquired in the order present progressive, past, future. There is a good match between linguistic and psychological predictions about order of acquisition. A brief but inconclusive study I did of Tagalog acquisition showed cognitive predictions seemingly had priority over linguistic ones, although this necessitated learning difficult linguistic forms before simpler ones. Yapese has a uniform monosyllabic verbal prefix system for the three tense/aspect forms in question. It provides a third situation to see which verb prefix is learned first when there is no difference in linguistic complexity.

(Another area of interest which I have not yet defined in any particular direction is the acquisition of noun classifiers. Is the most general classifier learned first, classifiers for the most common objects, classifiers for sharply-defined categories, particular shapes, human beings, animals, etc.).

OLLER, D.K. and Irene WARREN. Department of Speech and CDMRC, WJ-10, University of Washington, Seattle, Washington. Phonology. English. Implications of systematic instability in child phonology.

Children frequently produce grossly distinct phonetic variants in their attempts to approximate a single adult phonological form. By employing fine phonetic transcription, we can demonstrate that the instability of child forms is sometimes vast. It is a crucial problem for the theory of phonological development to both describe and explain instability. Up until now, the question of unstable forms has been largely unattended in the research on child language. Our paper presents data from our work showing examples of instability and suggesting both formalized descriptions and explanations based upon our theory of substitution processes in child speech.

OVITZ, Janet McDougald. Department of Anthropology, University of Colorado, Denver, Colorado 80218. Acquisition of reading and writing. English and Hebrew. 25. 2nd and 4th grade levels. The comparative ease of reading and writing acquisition in Hebrew.

A corpus of written material was gathered from fourteen second grade and eleven fourth grade children attending a bilingual English-Hebrew

Day School. The children were native English speakers, but both their reading and writing in Hebrew was more regular and proficient than that of English, the substructure of which was known to them. Several components of the Hebrew orthography may offer reasons for the comparative ease of reading and writing acquisition: 1) the almost one to one grapheme - phoneme correspondence; 2) the syllabic character of Hebrew; 3) use of vowel diacritics; 4) only two persistent grapheme reversals, the lower-case dalet and gimel (which bears striking geometric resemblance to the lower case b and d form reversals in English orthography).

Three children in the fourth grade study group showed perceptual difficulties in English but were able to read Hebrew with greater accuracy and ease.

PANNBACKER, Mary, Jack HAYNES, and Myra ERVIN. Speech and Hearing Clinic, Texas Woman's University, Denton, Texas 76204. Phonological, syntactical, and semantic development. English. 200. 3-5 1/2 yrs. Relationship between selected language measures in pre-school children.

Two hundred normal children (not speech defective) attending nursery school or kindergarten in Denton, Texas, or in towns immediately surrounding Denton were selected as subjects. The primary criterion for subject selection was chronological age. However, subjects were restricted to physically normal children who were from monolingual homes. Each subject had an I.Q. above 80 and normal hearing. Socioeconomic status was determined according to the Minnesota Scale for Parental Occupations. The variables were verbal output measures (length complexity index, mean length of response, developmental sentence score), Denver Articulation Screening Examination, Peabody Picture Vocabulary Test, Northwestern Syntax Screening Test, Assessment of Children's Language Comprehension, and teacher rating of auditory comprehension and spoken language.

Tentative results for the PPVT, NSST, and ACLSC indicate that (1) correlations between socioeconomic status and these measures are not significant, and (2) correlations between these measures were all positive, suggesting a common factor among these tests. The other data are presently being analyzed.

PALERMO, David S. Psychology Department, Pennsylvania State University, University Park, Pa. 16802. Semantic development. English. 3-8 yrs.

Acquisition of comparatives. Extensions of research on comprehension of 'more' and 'less'.

PERTZ, Doris L. and Thomas G. BEVER. 15 Woodmont Rd., Pine Brook, N.J. 07058 (DLP); 363 Schermerhorn Hall, Columbia University, N.Y. 10027 (TGB). Phonology (research in progress). Universal. 80. 9-11 and 16+ yrs. Given a data base of phonological universals, is there an inner psychological representation of these universals (prior to instruction or exposure)?

CCVC syllables were developed representing seven types of initial consonant clusters which do not occur in English, have a hierarchical ordering of the type if a language has +WX it also has +YZ (Greenberg, 1965), and for which markedness matrices were developed (Cairns, 1969). Monolingual English speaking children (N=40) and adults (N=40) were exposed to a tape and corresponding written representation of twenty-four pairs of syllables. Subjects were to decide, on a simplicity criterion, (which of the pair was easier to understand, say, learn, etc.) which probably happened in more world languages. Words were controlled for psychological distance from English (Greenberg and Jenkins, 1964). Results lend support to the theory that there is an inner representation that permits subjects to reconstruct a universal phonological hierarchy. Adults do significantly better than children ($p < .005$), although both do significantly better than chance (adults, $p < .001$; children, $p < .05$). Distance from English was not a factor influencing decisions. Implications are that diachronic change in phonological structure of languages does not spring from an inner 'knowledge' of children, but may be directed and/or controlled by adults or late teen-agers.

PFAFF, Carol W. University of California, Los Angeles. Syntax and phonology. English and some Spanish. Anglo, Black, and Chicano. Kindergarten and 1st grade level. The interaction of linguistic and social conditioning of variable linguistic rules.

The speech of these lower and middle income children was experimentally investigated using several structured and unstructured elicitation techniques. The linguistic variables investigated include: a) main verb and auxiliary usage of have, be and do, b) s suffixes indicating 3rd person singular present tense verb agreement, plural and possessive, c) negation, d) personal pronouns, e) selected phonological variables. Elicitation techniques include: 1) production tasks using visual and oral stimuli designed to elicit responses containing specific linguistic variables; 2) repetition tasks; 3) spontaneous connected discourse in story-telling; 4) spontaneous connected discourse in group free conversation, with and without an adult interviewer present. The tasks elicited a wide range of standard and nonstandard usage, with variation between individuals and within the speech of a single informant. Implicational relationships among the linguistic features appeared to hold only for the Black informants. Some Chicano informants were monolingual (English or Spanish) and some were bilingual. Some bilinguals exhibited language switching behavior in addition to variation within one language. Members of all ethnic groups who attended integrated schools exhibited 'dialect borrowing'. Many also exhibited nonstandard usage which may be due to incomplete language acquisition. In general this is clearly distinguishable from nonstandard usage due to dialect differences, even where the same linguistic variables are involved.

PIESTRUP, Ann McCormick. 434 Waverley St., Menlo Park, Calif. 94025. Structural and functional conflict: Black dialect and initial reading instruction. Black dialect. 208. 6-7 yrs. Effect of teacher style on dialect use and reading proficiency. Dimensions of mutuality of communication and task orientation in style.

Children performed a sentence repetition task designed to yield a dialect score based on phonological and syntactic variations. Fourteen first grade classrooms were visited by two observers and tape recordings made of two of the four sessions per class. Episodes of dialect interference and teacher accommodation were excerpted and categorized and six teacher styles defined in terms of episode categories: 1) Black-artful; 2) Standard English; 3) vocabulary; 4) decoding; 5) White-liberal; and 6) interrupting.

An analysis of variance indicated that both reading and dialect scores varied significantly according to teacher style, but no interaction effect was identified in an analysis of homogeneity of regression, between teaching styles for dialect and reading.

Seventy three classroom episodes illustrate accomodation and interference during spontaneous speech, instructional speech, during reading instruction (content), during oral reading, and in reading materials.

PISONI, David B. Department of Psychology, Indiana University, Bloomington, Indiana 47401. Syntactic and Semantic Development. English. 45. 3-5 yrs. Comprehension of abiguity in young children.

This work is concerned with investigating how young children (2-5 yrs.) comprehend ambiguous sentences. Sentences containing lexical, surface and underlying ambiguities are presented to children who are then asked to select two pictures from a set of four which best match the original sentence. Children receive some initial training in this two-choice picture identification task before receiving the ambiguous test items. Our goal is to demonstrate that children of this age can deal with sentence ambiguities and that previous research studies in this area have underestimated the linguistic and cognitive capacities of these children.

PISONI, David B. Department of Psychology, Indiana University. Syntactic and semantic development. English. 4. 1-3 yrs. On the quantitative analysis of the speech of mothers to young children.

Four children between 1-3 yrs. of age have been studied intensively over a 6-month period. The speech of the mother to the child (M-C) and the child to the mother (C-M) has been recorded in half-hour sessions approximately every two weeks. Our initial analyses indicate that not only the child's language but also the mother's goes through a series of stages. Moreover, very large differences in traditional taxonomic measures appear to take place in both the child's speech and the mother's in a surprisingly short period of time -- sometimes within a two or three

week span. Various syntactic and semantic analyses of these transcripts and the interactions are currently being carried out. This work should provide some needed data on the possible role of linguistic input in language acquisition.

PISONI, David B. and Robert SELTZER. Department of Psychology, Indiana University, Bloomington, Indiana 47401. Experimental phonetics and phonological development. English. 10-20. 1-6 months. Auditory and phonetic processes in infant speech perception.

We are concerned with examining the auditory and phonetic capacities of young infants to speech and speech-like stimuli. Following the work of Eimas et al. we are employing an adaptation habituation procedure to measure the discrimination of various acoustic and acoustic-phonetic contrasts. Studies are planned which will investigate the discrimination of voicing, place and manner cues for consonants along with several possible cues for vowels. In addition, we are planning an extensive series of perceptual experiments with infants which involve dichotic stimulation (i.e., different stimuli to both ears) to study the development of the right ear advantage and associated hemispheric specialization for phonetic processing. All stimuli are generated on a computer controlled speech synthesizer and delivered through specially built infant earphones.

PRESTON, Malcolm S., and Diane Kewley PORT. Department of Pediatrics, The J.F.K. Institute, 707 N. Broadway, Baltimore, Md. 21205 (MSP); Haskins Laboratories, New Haven, Conn. (DKP). Phonology-- early apical stop production. English. 3 of 1-2 yrs, others of 6 months-4 1/2 yrs. Voice onset time and the production of apical stops.

Voice onset time (VOT) has been shown to effectively differentiate the phonemic categories of stop consonants along the voicing dimension. This study applied the measurement of VOT to the production of apical stops produced by young children acquiring American English. Stops were measured from three children who were recorded regularly between 1 and 2 yrs. of age and from additional children ranging in age from 6 months to 4 1/2 yrs. Distributions of the percentage of occurrence of apical stops along the VOT continuum are compared longitudinally across subjects as well as with distributions of adult productions of word-initial /d/ and /t/. Drawing on a physiological discussion of the control of timing between the stop release and the onset of vocal fold oscillation, the following pattern of apical stop development is proposed. The earliest instances of stop articulation, around 6 months of age, have uniform distributions along the VOT continuum. At a later stage the distribution of apical stops collapses into an interval corresponding to that of the adult production of /d/. With further development some apical stops are added in the range of adult /t/. The distributions of /d/ and /t/ words for children do not change from 2 to 4 1/2 yrs., but they do not yet correspond with those of adults.

REMICK, Helen. Department of Psychology, California State College, Stanislaus, Turlock, Calif. 95380. Maternal language. English and Spanish. Mothers. 20-40 yrs. Characteristics of maternal language, possible correlation to child language acquisition.

Cross-cultural and cross-class comparison of maternal language. Presently analyzing tapes of middle class and Indio-Mexican mothers talking to their 18 to 36 month-olds. Comparing to Anglo middle class American mothers.

RIGLER, David, V.A. FROMKIN, Susan CURTISS, and Steven KRASHEN. Department of Linguistics, UCLA, Los Angeles, Calif. 90024. Phonology, syntax, semantics -- development of child reared for ten years in environment of extreme deprivation. English. Linguistic universals; critical age hypothesis; language lateralization; developmental grammars.

This is a continuing study of the linguistic development of 'Genie', who was reared for over ten years in an environment of extreme physical and psychological neglect and social isolation. Her linguistic development is being compared with that of normal children. The similarities and convergences with hypothesized developmental universals are of interest. The data provide insights into the relationship between comprehension and production, language and cognition, competence and performance. The study of Genie's linguistic development is especially meaningful because of her parapubertal age. Lenneberg's 'critical age' hypothesis is viewed in light of the data, and tests concerning lateralization have been administered.

RUDER, Kenneth, and Michael D. SMITH. Bureau of Child Research Laboratories, University of Kansas, Lawrence, Kansas 66044. Syntactic comprehension. English and Spanish. 16. 8 holophrastic; 8 telegraphic. Children's responses to telegraphic and well-formed commands.

This study represents an attempt to test the results of Shipley, Smith & Gleitman's "Free response to commands" (Language, 1969). While accepting the comprehension-exceeds-production hypothesis, this study questions the idea of a natural progression of items comprehended which some feel the hypothesis entails. The SS&G study supports the claim that "just those utterance types children themselves do not use are more effective as commands". That is, "those who appear to be at the holophrastic (or telegraphic) stage in production respond to speech at or just above their own productive limit" (p. 331). The attempted replication of SS&G was based on the elicitation of responses to simple commands. The overall results yield no significance in relation to mean length of utterance. The findings are not in agreement with SSG's contention that the holophrastic group tends to obey the child-form commands much more frequently than the well-formed ones. The opposite being the case for the telegraphic group. The results obtained with Spanish-speaking children also fail to support the SS&G study. It may be the case that the gross

simplification of input does not necessarily facilitate the acquisition process. In fact it may be, as Haynes has pointed out, that this gross simplification of input retards the development of the encoding and decoding processes.

RUDER, Kenneth, and Michael D. SMITH. Bureau of Child Research Laboratories, University of Kansas, Lawrence, Kansas 66044. Discrimination of segmental and suprasegmental stimuli in infants. English and Japanese. 24-50 hrs. Are infants capable of discriminating suprasegmental cues prior to discriminating segmental cues?

Previous studies of an infant's ability to discriminate linguistic stimuli (e.g., the research of Kaplan and Kaplan, Morse, Moffitt, Eimas, and Trehub & Rabinovich) have demonstrated that infants as young as four weeks of age are capable of discriminating suprasegmental and/or segmental cues. However, to data no one has attempted to test the hypothesis that the discrimination of suprasegmental cues ontogenetically precedes that of segmental cues. This study, with a limited subject population of neonates (24-50 hrs. of age), is an outgrowth of an attempt to ascertain whether or not infants are capable of discriminating suprasegmental cues prior to discriminating segmental cues. To date, pilot data and preliminary analysis indicating that infants between 24-50 hrs. of age are capable of distinguishing between intonation contours typical of English vs. those typical of Japanese. Interestingly enough, attempts at demonstrating that such infants can make discriminations of segmental cues typical of those infants four weeks of age and beyond have yet to meet with success. The index of discrimination being used is the nonnutritive sucking response within the habituation-dishabituation paradigm. The stimulus of the second half of this two-part study consists of English intonation contours superimposed over Japanese segmental material (running speech) vs. Japanese intonation contours superimposed over English segmental material. It is hoped that data obtained here will demonstrate that suprasegmental (intonation) cues are the significant cues vs. segmental cues.

RUDER, Kenneth, and Michael D. SMITH. Bureau of Child Research Laboratories, University of Kansas. Speech perception. English. 18-24 months. The use of operant techniques in measuring hemispheric specialization for the perception of speech.

As many of us are aware, it is quite useless to rely on a young child's judgements regarding the status of linguistic constructs -- the main reason being that such judgements are most difficult (or impossible from a practical standpoint) to elicit. For this reason, we have resorted to the use of operant techniques, and, to date, they appear to have the potential to provide data concerning what and/or how the young child processes linguistic input. A video tape accompanies this presentation.

SACHS, Jacqueline. U-85, University of Connecticut, Storrs, Conn. 06268. Syntactic and semantic development. English. 1-12 yrs. Effects of linguistic input on language development.

We have been engaged in a number of studies of the effects of linguistic input, initially looking at the characteristics of speech that adults use when addressing children of various ages. We are now also collecting data on children's speech to other children, and children's speech in a variety of role-playing situations. We have completed one study of the effects of a linguistically abnormal environment (a hearing child of deaf parents) and are now developing techniques for providing controlled linguistic input in an experimental situation.

SALUS, Peter H. & Mary W. Division of Humanities, Scarborough College, University of Toronto, West Hill, Ontario, Canada. Phonological development. English (& others). 50. 2-6 yrs. Rule ordering; motor development/language development, parallelism in brain-damaged children.

(1) Hierarchies in child phonology; implications of rule-ordering; optimalization of grammars. (2) Rationalization of evidence that language development and motor development parallel one another; attempts at verifying hypotheses using data from brain-damaged pre-schoolers (some with 'hard signs').

SEITZ, Sue. Department of Communicative Disorders, University of Wisconsin, 1975 Willow Drive, Madison, Wisconsin. Communication development. Standard English. Parent-child pairs. Variance in child language usage at a given level of competence is a function of parental modelling and reinforcement of communication.

Parents serve both as models for communication styles and as reinforcers of communication attempts by their children. Parents may model communication styles discrepant from or congruent with those they reinforce. Such parental behavior in turn may be influenced by the parent's perception of the child's competence and receptivity. Present research has two major goals: 1) to trace developmental patterns of parent-child communications in normal Standard English parent-child pairs and 2) to compare these patterns with those seen in developmentally comparable clinical samples where the presenting problem is language delay in the child. Samples of parent-child interactions are being collected in a clinic playroom and in the child's home, using a video tape recorder with a high fidelity microphone. Samples are marked with timing intervals to provide both time and frequency analysis of selected aspects of language content and function.

SEVERSON, Roger A. 1025 W. Johnson St. ESU-I, Rm. 316 B, Madison, Wisconsin 53706. Language assessment and modification in elementary school children with learning disabilities. Standard English. 5-10 yrs.

As part of a model of learning based on a cybernetic-reinforcement combined approach, language is assessed as an input, throughput and output behavior. Language comprehension, for example, is evaluated via the Friedlander procedure (capacity to discriminate global language of intact and degraded character), and output is assessed via free speech, with minimul instructions. Then we 'move in' from both ends, when integrative language is impaired, adding stimulus structure to the task and requiring increasingly refined responses of comprehension, manipulation or production.

SHELDON, Amy. Department of Linguistics, University of Minnesota, Minneapolis, Minn. 55455. Comprehension. English. 3 3/4 – 5 1/2 yrs. The role of the anti-interruption principle in the acquisition of relative clauses.

The study concerns the acquisition of subject and object relative clauses. The children were tested, by means of toy moving tasks, for their comprehension of four types of relatives sentences in which the kind of embedding, the word order in the relative clause, and the grammatical function of the identical NPs were controlled. A number of production studies of child language suggest that discontinuous structures are more difficult than non-interrupted structures, and Slobin has recently proposed the following universal principle of language acquisition: avoid interruption or rearrangement of linguistic units. This principle predicts that subject relatives will be learned later than object relatives because the main clause is interrupted. In addition sentences in which the subject NP is relativized should be learned before Ss in which the object NP is relativized. The results of our study do not support Slobin's principle. There is no significant difference in performance on self-embedded and right branching Ss at any of the three age levels tested. In addition the effect of word order within the relative clause did not vary significantly with age. There is little improvement on object relatives with age. Errors indicate that children are relying on an extraposition rule and are interpreting object relatives as extraposed subject modifiers. The parallel function hypothesis is proposed to account for the fact that relative Ss in which the identical NPs have the same grammatical function in their respective clauses are easier for children to understand than Ss in which the identical NPs have different grammatical functions.

SHELDON, Amy. Department of Linguistics, University of Minnesota. Syntactic development. English. 3;8 - 5;6 yrs. The role of parallel function in the comprehension of language by children and adults.

In a recent investigation I demonstrated that the parallel function hypothesis is crucial for the explanation of certain facts about the acquisition of relative sentences by English speaking children. I will be exploring some of the questions that have arisen from the findings of this study in order to explicate the notion 'parallel function' and its role in language behavior, further.

STARK, Rachel E. 417 Traylor Bldg., The John Hopkins Hospital, Baltimore, Md. 21205. Early sound production. Infants. The relationship between classes of behavior and features of co-ocurring sounds in infants.

The objectives of the proposed project are to discover the characteristics of sounds produced by normal infants at different stages of prelinguistic development and to find out if given sound types are consistently associated with functional behaviors such as crying or laughing. A descriptive feature analysis system has been developed which adequately describes individual segments of infant sounds. The system is capable of detecting changes in segment features occurring with age, identifying features which drop out from, and emerge in non-reflexive utterances, and also of detecting new combinations of features.

Those features which span groups of segments, i.e., the temporal organization of segments and the fundamental frequency controus will be studied. The ability of both suprasegmental features and segmental features to characterize stages of development will be tested. The non-vocal behaviors and infant-mother interactions which accompany vocalization in younger and older infants will be studied. Classes of vocal behavior which predominate in the output of young infants will be defined in terms of features of the bodily gestures, visual regard, facial expressions and postures associated with them. An attempt will be made to discover classes of vocal behavior as yet unidentified in older infants. The relationship between such classes of behavior and the auditory and acoustic features of the sounds which co-occur with them will be studied.

The project is designed to obtain information for use in assessing speech and language skills in profoundly-deaf children and in planning procedures for their speech habilitation. The information is also urgently required for assessing the efficacy in speech and language training of new sensory aids for the deaf.

TODD, Peyton H. III. The Wright Institute, 2728 Durant Ave., Berkeley, Calif. 94720. Syntactic development. English and Sign language. 1 M. 3- yrs. Delayed acquisition of speech by a hearing child of deaf parents.

The speech development of a hearing child of deaf-mute parents is reported. Although normal in every other way, this child was not exposed to speech until he was about three years old; his only language until then was the sign language of the deaf. Evidence is presented that his previous knowledge of sign language exerted an influence upon his speech as he learned to talk: many of his sentences showed this influence in lacking the syntactical relationships typical of speech; and others showed it in exhibiting many of the same structural features which seem to be peculiarly characteristic of sign language. These features are described, and an attempt at explaining them is offered. Other evidence is presented showing the normal speech development of other children. His word order was largely normal, and his sentences underwent the typical, gradual increase in complexity from simple sentences to embedded sentences to

doubly embedded sentences; from a maximum of two constituents per simple sentence, to three, then four constituents; and from the realization in more elaborate form at another. The possibility is discussed that these two processes -- the transference of the structure of sign language to speech, and the unfolding of normal speech development -- went on side by side without affecting each other.

TUNIKS, Galina. Department of Russian, University of California, Davis, Calif. 95616. Phonology. Russian. 28. 1 1/2 -7 1/2 yrs. Progressive unfolding of phonological rules and evidence for universals of language acquisition.

This study is an attempt to trace the development of consonants from the age of 1 1/2 to 7 1/2 in 28 Russian children in a suburb of Leningrad. A comparison of consonant production at different stages of development shows the disappearance of the neutralization of the feature of voice, of the feature of palatalization, and the appearance of new dichotomies in consonants and some consonant clusters occurring initially, medially, and finally.

Conclusions reached on the basis of this Russian corpus are compared to observations made on similar developmental levels in other languages, pointing thereby in the direction of some language universals.

WARREN, Irene B. 6202 Lochvale, Palos Verdes Peninsula, California 90274. Phonology. English. 5. 21-25 months.

This is a longitudinal investigation of the nature and change, over a five month period, of the phonological substitution processes evident in the early utterances of normal children. Subject MLU's range from 1;2 to 2;8 at initial sampling. Inter- and intra-subject comparisons of the phonological grammars, written for each subject for each of three sampling periods, will be discussed with particular attention paid to their relevance to Stampe's natural processes hypothesis. Implications for therapy with abnormal speakers will be drawn. The study forms the basis for a dissertation being done under the direction of Dr. D.K.Oller, University of Washington.

WINITZ, Harris. Speech Science, 5220 Rockhill Rd., University of Missouri, Kansas City, Missouri 64110. Acquisition of a second language based on first language acquisition. German. Acquisition factors.

A program has been developed (Mouton, in press) to teach German as a second language based on the following psycholinguistic facts derived from first language learning: (1) comprehension precedes production, (2) pronunciation is avoided until there is considerable learning of syntax and semantics, (3) sentences being with one word in length and gradually

increase to seven and eight, (4) transformations are introduced by taking note of underlying 'sentences' and, (5) psycholinguistic ambiguity is carefully considered in the early presentation of each new grammatical form.

In addition the lessons are guided by two behavioral considerations: (1) pictures are used; English-German correspondences are not taught, so as to avoid interference, (2) immediate reinforcement is provided for correct responses.

All lessons have the following format: (1) German sentences are heard, (2) four pictures appear in a TV screen simultaneously, (3) the student selects the correct picture, and marks on specially treated paper which blackens when a response is correct. The program involves no training of speaking. The emergence of speech, the correct use of grammatical forms and imitation of sentences will be studied. Rate of acquisition is about 50 words/hour. Most major grammatical constructions will be included in the first 30 hours of lessons.